

Appl. No. : 10/725,281  
Filed : December 1, 2003

### AMENDMENTS TO THE CLAIMS

**Please amend Claims 18, 20, 21, 34, 40, 42, 57-59, 63, 64, 67, 69 and 72.**

**Please cancel Claim 19.**

**Please add new Claims 73-79.**

1-17. (Canceled)

18. (Currently amended) A method of testing a speech recognizer, the method comprising:

receiving a ~~selected portion~~ plurality of a digital audio data files, each audio file comprising audio recorded in response to a first prompt by a speech recognition application;

receiving a grammar associated with the first prompt, the grammar comprising a plurality of concepts, each concept having a set of responses phrases organized under a single idea, the idea representing an expected response to the first prompt to occur in the selected portion;

producing a first decode result for each audio file based at least in part on the selected portion and the grammar, producing a decode result of the selected portion;

receiving a transcript of each audio file ~~the selected portion;~~ and

scoring the first decode results based at least in part on the transcript of each audio file.

19. (Canceled)

20. (Currently amended) The method of Claim 18, wherein the first decode result comprises concepts, phrases, words, and/or phonemes.

21. (Currently amended) The method of Claim 18, wherein the first decode result comprises a confidence score.

22. (Original) The method of Claim 18, further comprising displaying a result of the scoring.

23. (Original) The method of Claim 18, further comprising creating and/or modifying a response file associated with the audio data file.

24. (Original) The method of Claim 18, wherein the response file comprises the audio file, a portion of the grammar associated with the audio file, the decode result, and/or the transcript.

25-33. (Canceled)

34. (Currently amended) A system for testing a speech recognizer, the system comprising:  
an audio recorder module for receiving a plurality of digital audio data files, input each data file comprising audio recorded in response to a first prompt of a speech recognition application;

a grammar editor module configured to access and modify allow modification of a grammar based on scoring of a recognition result, the grammar comprising a plurality of concepts, each concept having a set of phrases organized under a single idea, the idea representing an comprising words, phrases, or phonemes expected response to the first prompt appear in the audio input;

a speech recognition engine configured to output a recognition result based on for each audio data file of the plurality of digital audio data files the audio input and the accessed grammar; and

a scoring module configured to score the recognition results based at least in part on a user-defined transcript of each audio data file of the plurality of the audio data files input and the recognition result.

35. (Original) The system of Claim 34, further comprising a user interface.

36. (Original) The system of Claim 34, wherein the user interface comprises a graphical user interface.

37. (Original) The system of Claim 36, wherein the graphical user interface is configured to display an output of the scoring module.

38. (Original) The system of Claim 34, wherein the recognition result comprises a confidence score.

39. (Original) The system of Claim 34, wherein the recognition result comprises a concept, phrase, word, or phoneme.

40. (Currently amended) The system of Claim 34, wherein the recognition result comprises an indication of an acoustic model used by the speech recognizer in decoding each the audio data file input.

41. (Original) The system of Claim 40, wherein the recognition result comprises an acoustic model score.

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42. (Currently amended) The system of Claim 34, further comprising a response file for logically associating ~~the~~ an audio data file ~~input~~, the transcript, the recognition result, and/or an output of the scoring module.
- 43-50. (Canceled)
51. (Previously presented) The system of Claim 34, wherein the speech recognition engine is configured to transmit the recognition result to a tuner module for processing.
52. (Previously presented) The system of Claim 51, further comprising a tuner module configured to transmit digital audio input to the audio recorder module and grammar to the grammar editor module.
53. (Previously presented) The system of Claim 34, further comprising a test module configured to initiate a testing cycle by processing and transmitting digital audio input and grammar to the speech recognition engine.
54. (Previously presented) The system of Claim 53, wherein the speech recognition engine is configured to transmit the recognition result to a tuner module for processing.
55. (Previously presented) The system of Claim 54, further comprising a tuner module configured to transmit digital audio data and grammar to the test module.
56. (Previously presented) The system of Claim 36, wherein the graphical user interface is configured to display the digital audio input and the accessed grammar.
57. (Currently amended) A system for testing a speech recognizer, the system comprising:  
an audio data input module for receiving a plurality of digital audio data files, each audio data file comprising audio recorded in response to a prompt of a speech recognition application;  
a grammar editor module configured to access and modify ~~allow modification of~~ a grammar, the grammar comprising a plurality of concepts, each concept having a set of phrases organized under a single idea, the idea representing an ~~comprising words, phrases, or phonemes expected response to the prompt appear in the audio input;~~  
a test module configured to initiate a testing cycle, the testing cycle comprising by ~~processing and transmitting~~ the plurality of digital audio data files and the grammar to a speech recognition engine; and

a scoring module configured to receive ~~score~~ a recognition result for each of the plurality of audio data files from the speech recognition engine, and further configured to score the recognition results based at least in part on a user-defined transcript of the audio input ~~and a recognition result, wherein the scoring module receives the recognition result from a speech recognition engine.~~

58. (Currently amended) The system of Claim 57, further comprising a speech recognition engine configured to output a recognition result to the scoring module for each of the plurality of audio data files ~~based on input~~ received from the test module.
59. (Currently amended) The system of Claim 58, wherein the speech recognition engine is further configured to transmit the recognition results to a tuner module for processing.
60. (Previously presented) The system of Claim 59, further comprising a tuner module configured to transmit digital audio data and grammar to the test module.
61. (Previously presented) The system of Claim 58, further comprising a user interface.
62. (Previously presented) The system of Claim 61, wherein the user interface comprises a graphical user interface.
63. (Currently amended) The system of Claim 62, wherein the graphical user interface is configured to display an output from a the scoring module ~~configured to score the recognition result based at least in part on a user-defined transcript of the audio input and the recognition result.~~
64. (Currently amended) The system of Claim 62, wherein the graphical user interface is configured to display ~~the~~ a digital audio data file input and the accessed grammar.
65. (Previously presented) The system of Claim 58, wherein the recognition result comprises a confidence score.
66. (Previously presented) The system of Claim 58, wherein the recognition result comprises a concept, phrase, word, or phoneme.
67. (Currently amended) The system of Claim 58, wherein the recognition result comprises an indication of an acoustic model used by the speech recognition engine in decoding ~~the~~ an audio data file input.
68. (Previously presented) The system of Claim 66, wherein the recognition result comprises an acoustic model score.

69. (Currently amended) The system of Claim 58, further comprising a response file for logically associating the an audio data file ~~input~~, the transcript, the recognition result, and/or an output of the module configured to output a recognition result.
70. (Previously presented) The method of Claim 22, further comprising displaying a result of the scoring on a user interface.
71. (Previously presented) The method of Claim 70, wherein the user interface is a graphical user interface
72. (Currently amended) The method of Claim 18, further comprising transmitting the first decode results to a tuner module for processing.
73. (New) The method of Claim 18, further comprising:  
modifying the grammar;  
producing a second decode result of each digital audio file based at least in part on the modified grammar; and  
scoring the second decode results based at least in part on the transcript of each audio file.
74. (New) The method of Claim 73, further comprising comparing the scoring of the first decode results and the scoring of the second decode results.
75. (New) The method of Claim 18, wherein each of the set of phrases comprises a word, a word block, a BNF construct, or a phoneme block.
76. (New) The method of Claim 18, further comprising:  
receiving a second plurality of digital audio data files, each audio file comprising audio recorded in response to a second prompt by the speech recognition application;  
receiving a second grammar associated with the second prompt, wherein the second grammar comprises a plurality of concepts, each concept having a set of phrases organized under a single idea, the idea representing an expected response to the second prompt;  
producing a second decode result for each audio file in the second plurality of digital audio data files based at least in part on the second grammar;  
receiving a transcript of each audio file in the second plurality of audio data files; and  
scoring the second decode results based at least in part on the transcripts of each of the second plurality of digital audio files.

77. (New) The method of Claim 18, wherein scoring the decode results comprises generating statistics on the accuracy of the decode results with respect to each transcript, the statistics comprising word error rate, concept error rate, and average confidence scores for correct and incorrect results.
78. (New) The system of Claim 34, wherein the system is configured to, iteratively, modify the grammar based on a previous scoring of recognition results using the grammar editor module, output a recognition result for each audio data file based on the modified grammar using the speech recognition engine, and use the user-defined transcript of each audio data file to score the modified grammar recognition results using the scoring module.
79. (New) The system of Claim 57, wherein the grammar editor module is further configured to modify the grammar based on the scoring of the recognition results, the test module is further configured to transmit the plurality of audio data files and the modified grammar to a speech recognition engine, and the scoring module is further configured to receive a recognition result based on the modified grammar from the speech recognition engine for each of the plurality of audio data files and to score the recognition results based at least in part on the user-defined transcript.